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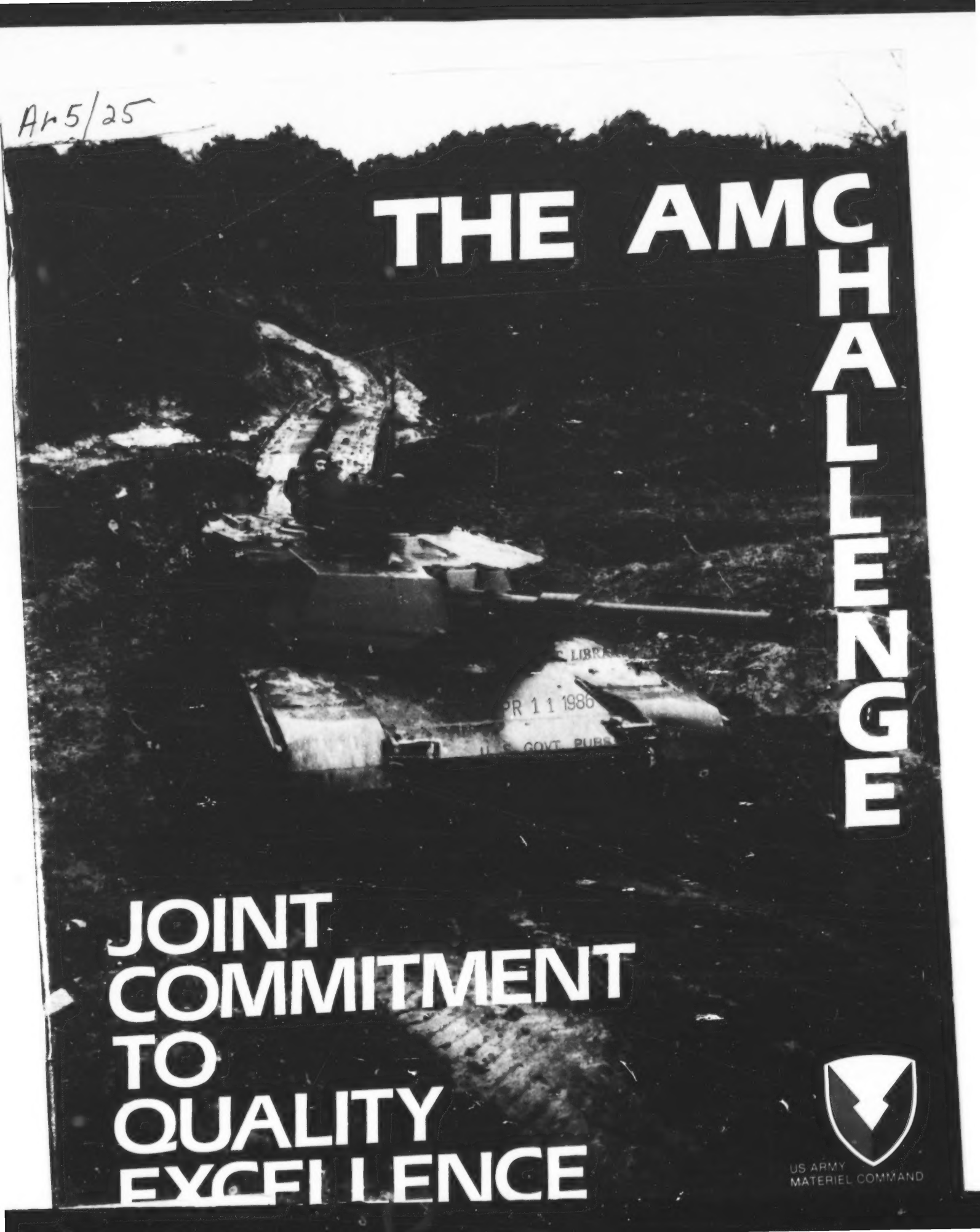


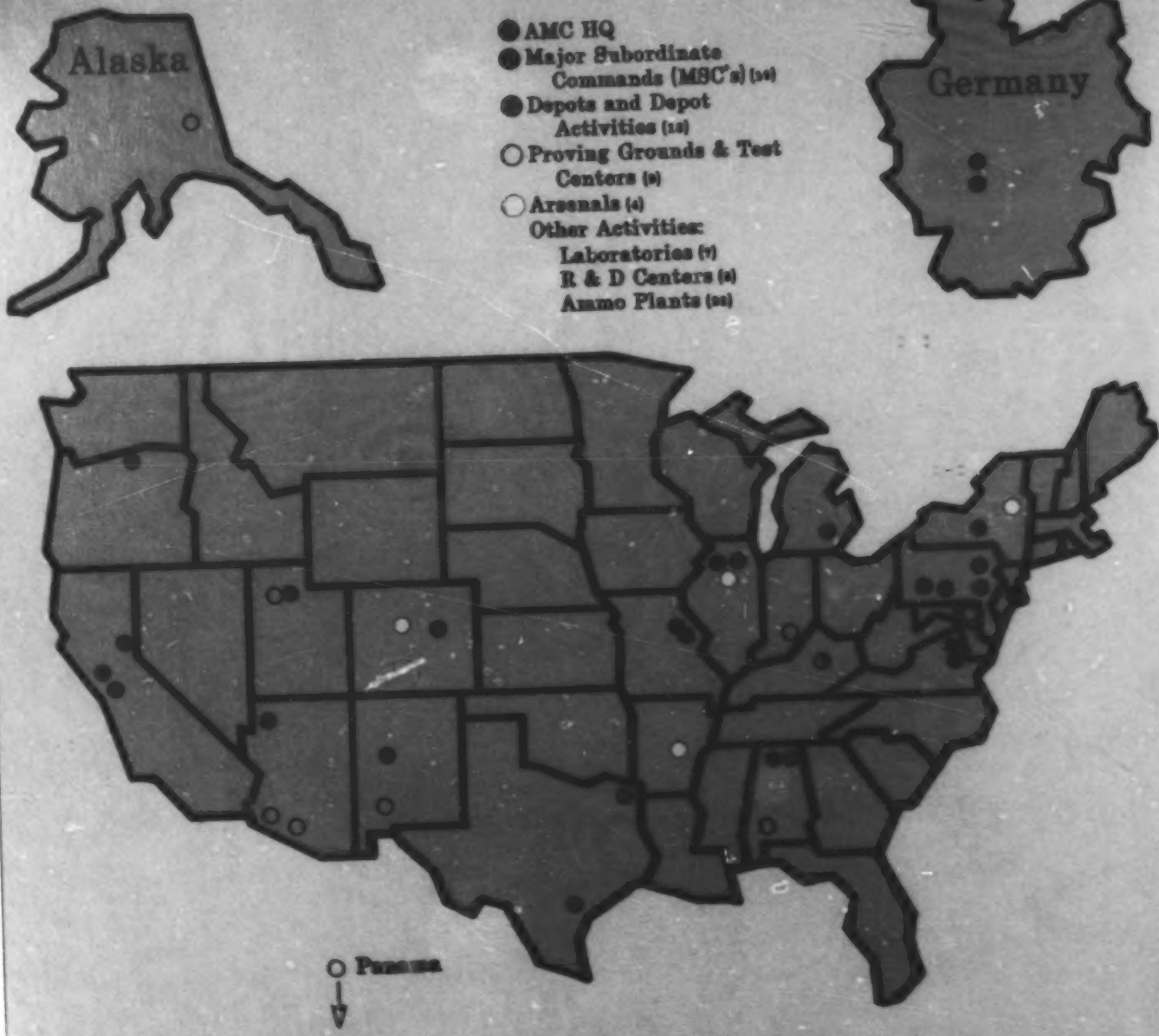
THE AMC CHALLENGE

PR 11 1986

JOINT COMMITMENT TO QUALITY EXCELLENCE

US ARMY
MATERIEL COMMAND

THIS IS U.S. ARMY MATERIEL COMMAND (AMC)



- Real Estate equal to Connecticut and Delaware
- Personnel in 43 States and 10 Foreign Countries
- 401,000 Average Line Items managed
- 536,000 Typical Annual Procurement Actions
- 542,000 Typical Annual Overhauled Items

MESSAGE FROM
COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND

We in the U.S. Army Materiel Command have made significant strides in the Product Assurance and Testing arena. This brochure illustrates a few of those achievements and highlights the direction our major thrusts are going.

Many of you have played a supportive and key role in these advancements, and your continued support is essential to our success. We have not yet reached our destination; therefore, we cannot afford to be satisfied with our accomplishments. We must constantly look for ways to improve. Together, we will continue to move forward.

Quality is a total commitment. The framework of our efforts must focus on building a strong management philosophy committed to quality and productivity throughout all phases of the materiel life cycle. This begins at the top. Our structures, our policies, and our priorities must support our people and our practices. We must develop new strategies to motivate our workforce. Performance, at all levels, is the key to sustained quality improvement.

I would like to strongly emphasize the Army Materiel Command's commitment to soldier satisfaction. Providing our military with safe and reliable equipment is not merely our goal, it is our business. We think it should also be yours, and we challenge you to join in a mutual commitment to quality excellence.

RICHARD H. THOMPSON
General, USA
Commanding

AMC

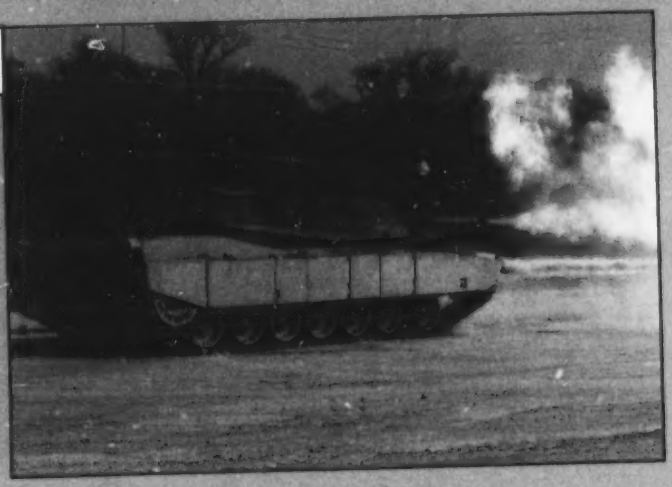
The Soldier stands through our Mutual Support

Industry

QUALITY PROGRAMS
Result in Success

Zero Defect Tank

A TANK WITH "ZERO DEFECTS" WAS OFFERED TO THE GOVERNMENT FOR THE FIRST TIME. EMPHASIS WAS PLACED ON "DOING IT RIGHT THE FIRST TIME" WHICH, WHEN EFFECTIVELY IMPLEMENTED, ELIMINATES DEFECTS. OPERATIONAL READINESS RATES ARE AT AN ALL TIME HIGH.

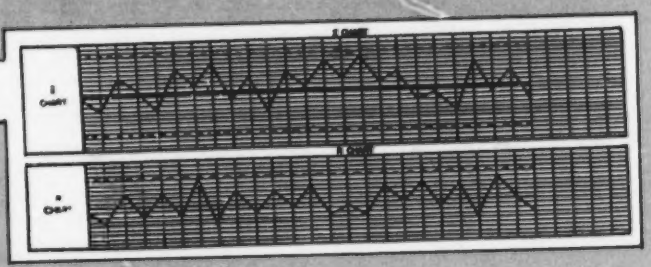


Special Process Controls

DEVELOPMENT OF NEW EQUIPMENT IS REVOLUTIONIZING WELD DEFECT DETECTION.

Statistical Process Controls

SIGNIFICANT SAVINGS HAVE BEEN REALIZED IN SEVERAL MAJOR PROGRAMS BY APPLYING STATISTICAL PROCESS CONTROLS.



Environmental Stress Screening

- $496.1 MILLION ESTIMATED COST AVOIDANCE OVER LIFE CYCLE OF THERMO IMAGING SYSTEM/LASER RANGE FINDER.
- LIFE CYCLE COST AVOIDANCE OF OVER $239 MILLION ON TOW MISSILE SUBSYSTEM

Component Testing

PREASSEMBLY INSPECTION OF ELECTRONIC PARTS RESULTS IN A 300-500% COST AVOIDANCE

Optical Scanners

USE OF BAR CODE TECHNOLOGY FOR CYCLIC INSPECTIONS RESULTS IN COST AVOIDANCE OF $5 MILLION ANNUALLY

WEAPON SYSTEM -

SUCCESS RESULTS FROM....
Quality People

Aggressive Career Management

- INTERN PROGRAMS
- OPPORTUNITY FOR ADVANCED DEGREES
- LOGISTICS AND ACQUISITION MANAGEMENT PROGRAM
- RETENTION OF HIGHLY QUALIFIED PEOPLE

Continuous Training

- ARMY/INDUSTRY EXCHANGE PROGRAM
- ACADEMIC OUTREACH PROGRAM
- PRODUCTION WORKSHOPS
- ADVANCED TECHNOLOGISTS

Workforce of Excellence

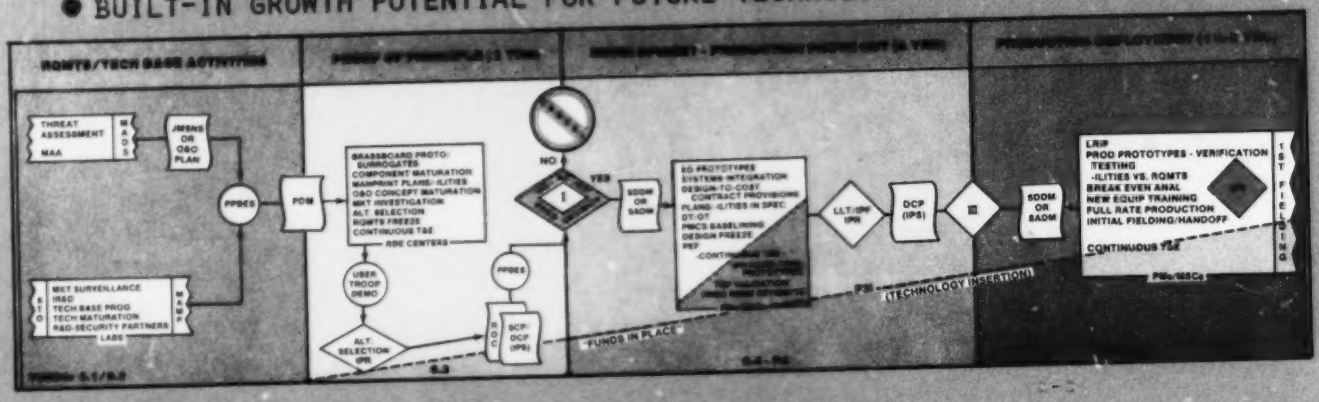
- CERTIFICATION PROGRAMS
- AWARDS FOR EXCELLENCE
- ACHIEVEMENT RECOGNITION

LIFE CYCLE MANAGEMENT

UPFRONT

Streamline Acquisition — A New Process

- GREATER EMPHASIS AND USE OF NONDEVELOPMENTAL ACQUISITION
- FOUR-YEAR DEVELOPMENT GOALS
- JUDICIOUSLY TAILORED SPECIFICATIONS AND STANDARDS
- BUILT-IN GROWTH POTENTIAL FOR FUTURE TECHNOLOGY



Waivers and Deviations

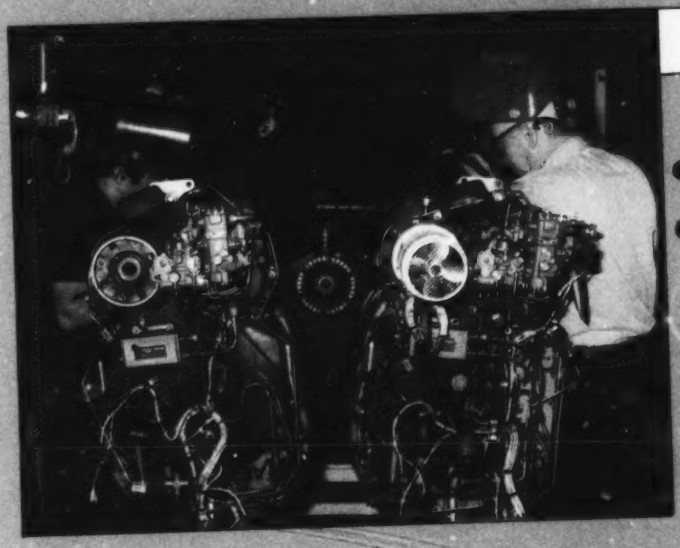
- EXCEPTION RATHER THAN RULE
- VALID SPECIFICATION REQUIREMENTS
- FULL COMPLIANCE WITH CONTRACTUAL REQUIREMENTS
- CONSIDERATION RECEIVED FOR ALL APPROVED WAIVERS OR DEVIATIONS
- ADHERENCE TO SCHEDULE - NOT A JUSTIFICATION

Warranties - Here to Stay

- MANDATORY FOR MAJOR WEAPON SYSTEMS
- ESSENTIAL PERFORMANCE PARAMETERS
- LOW/NO COST
- SYSTEMIC DEFECT COVERAGE
- INVENTORY/LOT-WIDE REMEDY

PHASE II REQUIREMENTS—TECHNICAL

QUALITY

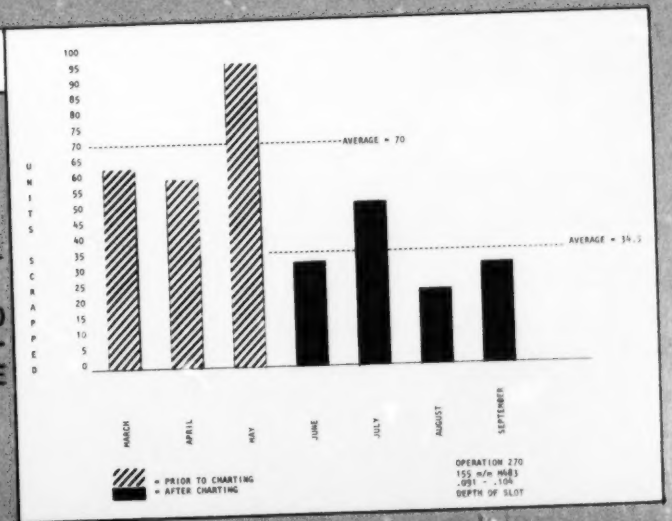


Supplier Quality Control

- TOTAL RESPONSIBILITY FOR QUALITY ON CONTRACTOR
- VENDOR CONTROL RESPONSIBILITY OF PRIME CONTRACTOR - NOT GOVERNMENT

Scrap and Rework

- CONTRACTORS REQUIRED TO MEASURE, REDUCE, AND REPORT SCRAP AND REWORK COSTS
- CONTRACTORS HELD LIABLE FOR DEFECTIVE MATERIEL
- APPLICATION OF QUALITY CIRCLES AND STATISTICAL PROCESS CONTROL PRODUCES SIGNIFICANT COST AVOIDANCE



BASE DEVELOPMENT

TEST AND

"QUALITY DATA IS GOOD EVERYWHERE"

Integrated Test Planning -- A Team Effort

- ALL MEMBERS OF ACQUISITION TEAM, INCLUDING DEVELOPER, USER, TESTER, INDEPENDENT EVALUATOR, LOGISTICIAN, AND CONTRACTOR
- EARLY PARTICIPATION
- FULL SHARING OF GOVERNMENT/INDUSTRY TEST DATA

Integrated Development Test Cycle

- MOST ECONOMICAL/BENEFICIAL LOCATION FOR TEST
- MAXIMUM UTILIZATION OF TESTS AND TEST FACILITIES
- FULL UTILIZATION OF CONTRACTOR DATA
- CHALLENGING OF ALL TEST REQUIREMENTS
- ELIMINATION OF DUPLICATE TESTING

PHASE 2: PROOF OF

EVALUATION

"Planning Today to Meet Tomorrow's Challenge"

Component Qualification

- TIME SAVINGS
- ELIMINATION OF SOME SYSTEM TESTING
- EFFICIENT TESTING WITH MAXIMUM IMPACT
- SYSTEM LEVEL TESTING FOCUSED ON INTEGRATION PROBLEMS

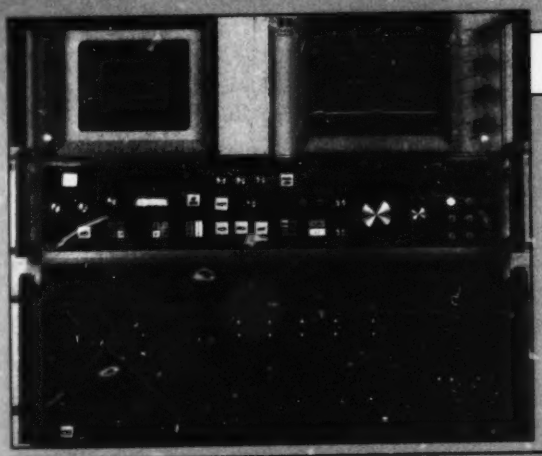
Test Information Reporting System

- Focal Point for T&E

- COMMON DATA BASE WITH COMMUNITY-WIDE ACCESS
- TEST STATUS TRACKING
- EARLY AND CONTINUOUS ASSESSMENT AND CORRECTION OF PROBLEMS
- CONTRACTOR TESTING IMPROVEMENT
- INPUT ACQUISITION DATA SYSTEM
- TEST FACILITY QUALIFICATION PROCEDURES MANAGEMENT

PRINCIPLE (2 YEARS)

QUALITY

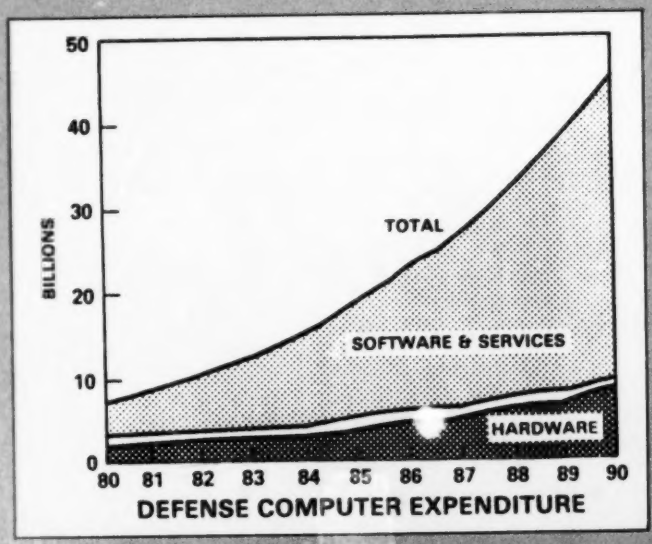


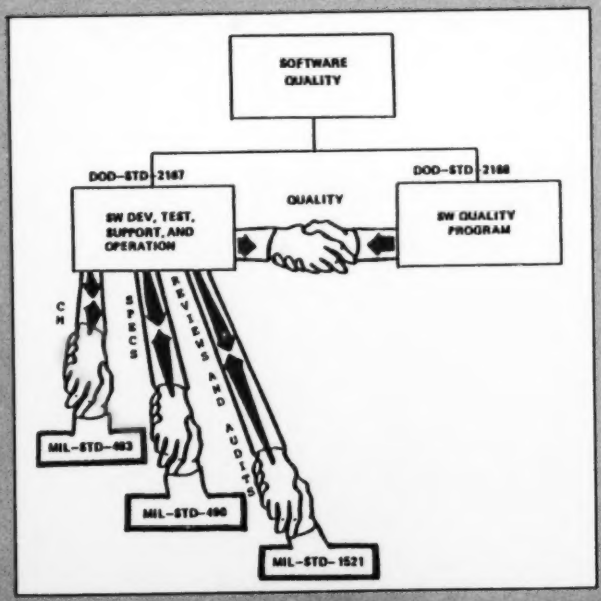
Environmental Stress Screening

- RAPID TEMPERATURE CYCLING AND RANDOM VIBRATIONS INDUCE LATENT DEFECTS TO FAIL
- WEEDS OUT DEFECTIVE PARTS BEFORE INSERTION INTO ASSEMBLIES
- SCREENS OUT DEFECTS IN WORKMANSHIP BEFORE DELIVERY
- EARLY ELIMINATION REDUCES REWORK AND REPAIR COSTS SIGNIFICANTLY

SOFTWARE- Software may be the most significant single development risk in the Department of Defense in the 80's

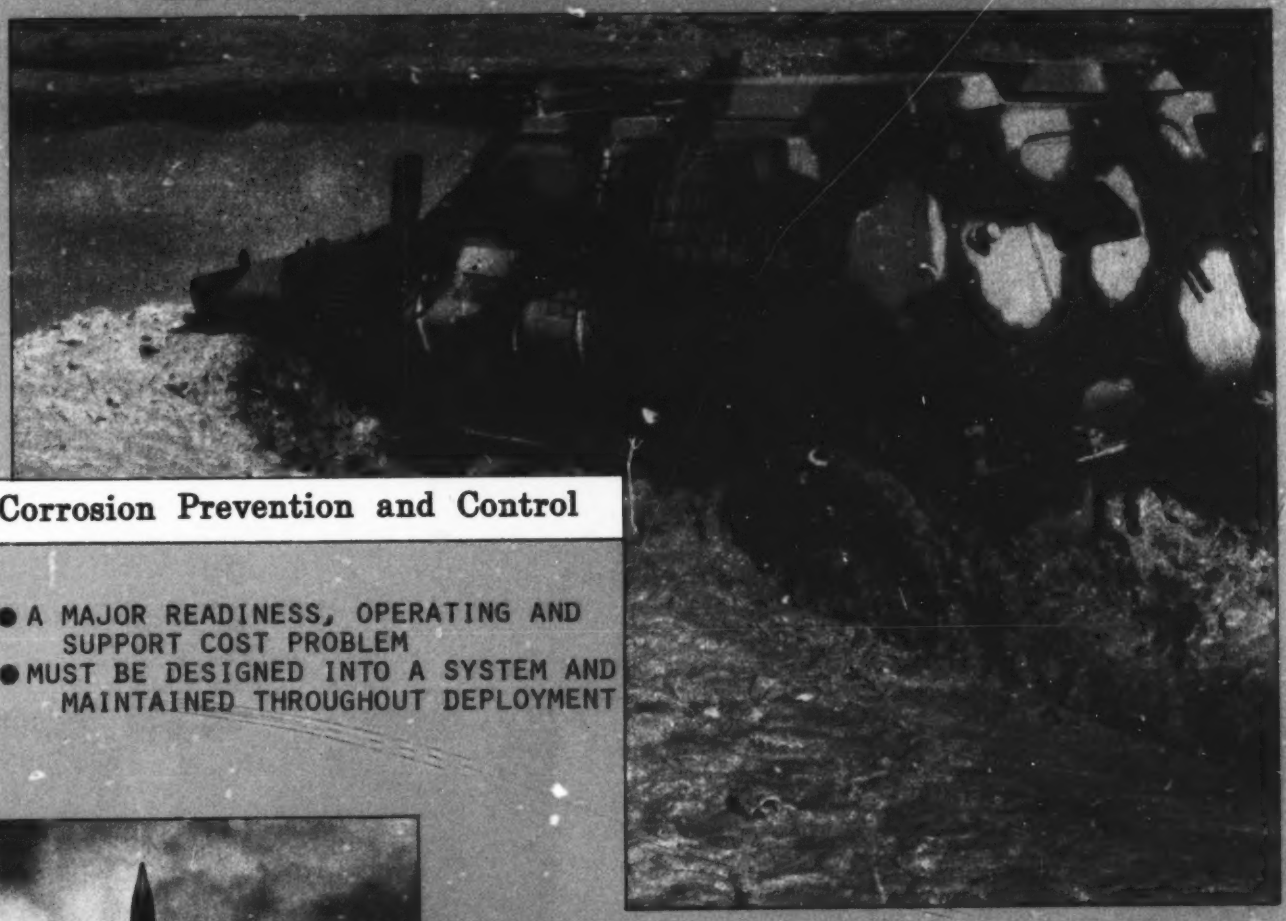
- OBJECTIVE IS TO CONSOLIDATE EXISTING SERVICE UNIQUE SOFTWARE DEVELOPMENT AND ACQUISITION REGULATIONS AND STANDARDS FOR ALL SERVICES
  - ELIMINATES REDUNDANT DATA ITEMS
  - PROVIDES UNIFORM SOFTWARE DEVELOPMENT METHODOLOGY
  - STREAMLINES DOD ACQUISITION PROCESS
  - INCREASES QUALITY OF SOFTWARE AND DOCUMENTATION





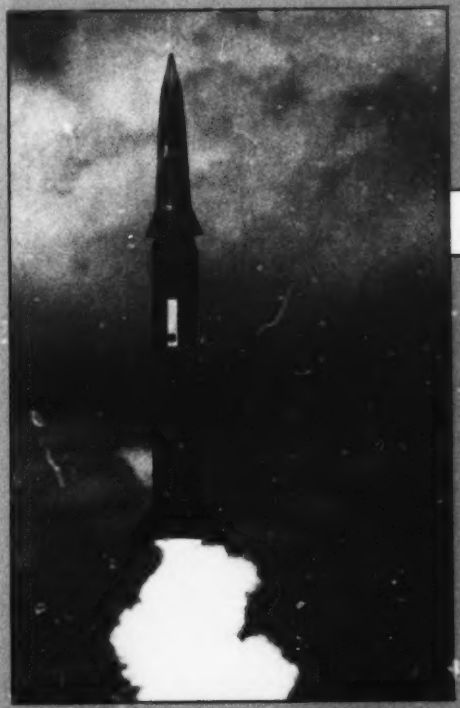
PHASE 3 — DEVELOPMENT — PRODUCTION —

ENGINEERING



Corrosion Prevention and Control

- A MAJOR READINESS, OPERATING AND SUPPORT COST PROBLEM
- MUST BE DESIGNED INTO A SYSTEM AND MAINTAINED THROUGHOUT DEPLOYMENT



Reliability, Availability, and Maintainability

A key driver in source selection.

- IMPORTANT FACTOR IN SELECTION OF CONTRACTORS/VENDORS
- EQUAL IN IMPORTANCE TO COST, SCHEDULE, AND TECHNICAL FACTORS
- SEPARATE EVALUATION CRITERIA FROM TECHNICAL IN REQUEST FOR PROPOSAL AND SOURCE SELECTIONS

PROVE OUT (4 YEARS)

COMPONENT SAFETY PROGRAM

The Soldier — Our Reason for Being

- IDENTIFICATION AND INTENSIVE CONTROL OF CRITICAL SAFETY ITEMS
- LIFE CYCLE SURVEILLANCE AND CONTROL
- MANUFACTURING AND MAINTENANCE AWARENESS
- PROACTIVE AND PREVENTATIVE
- PERFORMANCE FEEDBACK
- SAFETY AND OPERATIONAL READINESS

ROOT CAUSE ANALYSIS

-- Don't Let Failures Recur

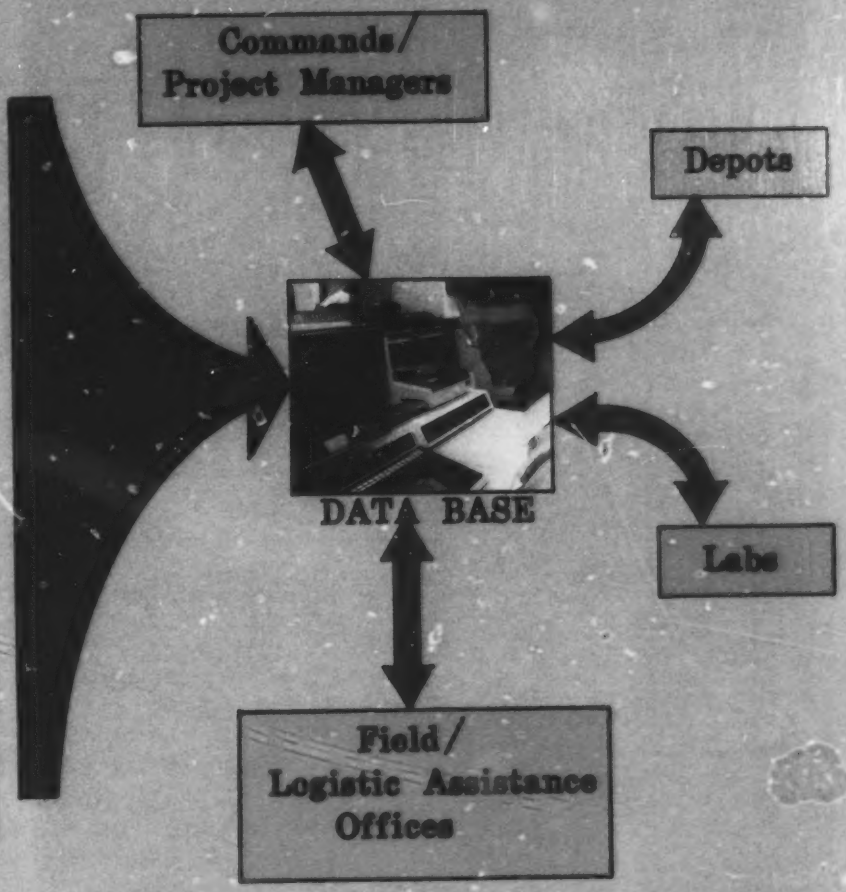
- SYSTEMIC VERSUS ITEM CORRECTION
- PREVENTION OF FURTHER DEFECTS
- STRUCTURED, DISCIPLINED APPROACH TO FAILURE ANALYSIS
- SUCCESS ACHIEVED WHEN TRADITIONAL METHODS FAIL

PHASE 4:

CUSTOMER FEEDBACK

for Product Improvement and Customer Satisfaction

- Reports of Discrepancies (overages/shortages)
- Equipment Improvement Recommendations
- Discrepancies in Shipment
- Warranty Claim Actions
- Sample Data Collection
- Quality Deficiency Reports
- Accident Reports
- Preliminary Reports of Aircraft Accidents



- INTEGRATED EFFORT BETWEEN MAINTENANCE, ENGINEERING, AND PRODUCT ASSURANCE
- PREDICTION/PREVENTION OF DEFECTS
- PARTICULAR EMPHASIS TO CRITICAL ITEMS
- RESPONSIBILITY ASSESSMENTS

- ITEM QUALITY HISTORY
- FAILURE TREND ANALYSIS
- COMMAND CENTERS FOR CUSTOMER ASSISTANCE
- WORLDWIDE ACCESS TO DATA
- PERFORMANCE EVALUATIONS
- INFORMATION FEEDBACK TO CUSTOMER

PRODUCTION—

STORAGE LIFE SURVEILLANCE

Ammunition Stockpile Reliability

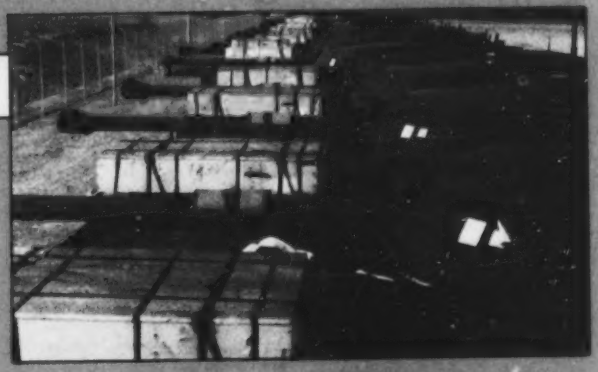
- SAFETY AND RELIABILITY ASSURED
- RELIABILITY TRENDS IDENTIFIED
- ITEMS IDENTIFIED FOR TIMELY MAINTENANCE OR DISPOSAL
- PRIORITY-OF-ISSUE ASSIGNED AND USE OF ITEMS WITH MARGINAL RELIABILITY OR PERFORMANCE RESTRICTED
- SHELF LIFE ESTABLISHED OR CONFIRMED WHEN WARRANTED
- MALFUNCTIONS IN TYPE-CLASSIFIED MATERIEL INVESTIGATED

Paperless Process for Cyclic Inspections

- STANDARD BAR-CODING TECHNOLOGY
- UNIQUE TECHNICAL DATA PROVIDED BY OPTICAL SCANNERS
- ON-SITE RE-CLASSIFICATION/RE-IDENTIFICATION OF MATERIEL, DELETION OF DUPLICATE LOCATIONS, AND REQUESTS FOR SPECIAL INVENTORY INSPECTION DATA RECORDED DIRECT TO COMPUTER WITHIN 24 HOURS
- INCREASED INSPECTOR ACCURACY/EFFICIENCY
- FEWER DISCREPANT SHIPMENTS

Storage Time

- MATERIEL STORED FOR SHORTER PERIODS BEFORE BEING PUT INTO USE



DEPLOYMENT (1 1/2 - 2 YEARS)

Quality Ethics – an Attitude, not a Goal

☐ -- A key to greater productivity is increased quality, which yields less scrap and rework, and can save the taxpayers millions of dollars.

☐ -- We must get back to basics and do it right the first time.

-- It is folly to provide materiels on time and within costs if it fails to perform when and as required.

-- When weapons fail on the battlefield, soldiers die and wars are lost. At that point, a warranty doesn't help much.

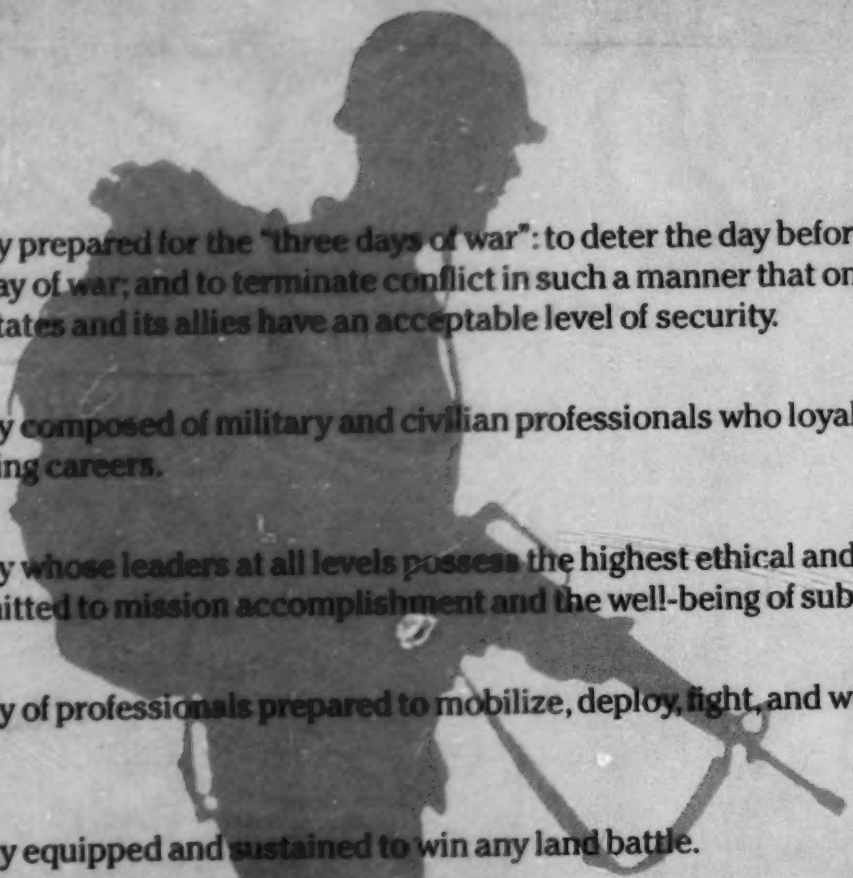
☐ -- In today's competitive environment, quality must be the number one operating priority. Ignoring quality is tantamount to corporate suicide.

--Quality must not be compromised by negotiation.

-- Quality doesn't just happen, it is planned. It must be designed in, built in, and verified.

☐ -- Quality performance is the ultimate measure of success.

Total Army Goals



- ***READINESS***
  A Total Army prepared for the "three days of war": to deter the day before war; to fight and win on the day of war; and to terminate conflict in such a manner that on the day after war, the United States and its allies have an acceptable level of security.
- ***HUMAN***
  A Total Army composed of military and civilian professionals who loyally serve their nation in rewarding careers.
- ***LEADERSHIP***
  A Total Army whose leaders at all levels possess the highest ethical and professional standards committed to mission accomplishment and the well-being of subordinates.
- ***TRAINING***
  A Total Army of professionals prepared to mobilize, deploy, fight, and win anywhere in the world.
- ***MATERIEL***
  A Total Army equipped and sustained to win any land battle.
- ***FUTURE DEVELOPMENT***
  A Total Army sensitive to innovative approaches to accomplish its mission.
- ***STRATEGIC DEPLOYMENT***
  A Total Army organized, manned, and equipped so as to be capable of deploying, with transportation assistance, to any part of the globe to counter a wide spectrum of threats.
- ***MANAGEMENT***
  A Total Army which efficiently and effectively uses the resources made available.

5001 EISENHOWER AVENUE
ALEXANDRIA, VA 22333-0001